An Introduction to the Oregon 4-H Entomology Project

The Oregon 4-H Entomology Project will let you explore and learn about insects. This document will introduce you to the four NEW Entomology Project Units which include interactive Oregon 4-H Entomology Project support materials which replace the 4-H Entomology Manual (4-H 3221/Rev.1997) for youth members. All the resources for the four units are available you at http://oregon.4h.oregonstate.edu/projects/natural-science/entomology, the OSU 4-H Entomology website page. Scroll down the page to find the new materials. In addition, on the top of this page, you will find links to the Teaming with Insects Levels 1-3 curriculum and leader tutorials, the 4-H Entomology Record and the Butterfly WINGS project materials.

Objectives of the Oregon 4-H Entomology Project

1. To learn the life history and habits of representative insects and understand their relationship to humans/human populations
2. To learn to recognize the major orders of insects
3. To learn skills necessary to collect, display, and study insects
4. To understand basic biology, which will unveil new avenues of experience, interest and career opportunities
5. To apply knowledge acquired in this project to other projects and to related community activities.

Contents of the Oregon 4-H Entomology Project

The on-line Oregon 4-H Entomology tutorials, quizzes and reference materials will provide you the basic knowledge of insects you need to succeed in this project.

References used in all four units are:

- 4-H Entomology Project Leader Guide 4-H3221L
- Getting to Know the Insects

1. Unit 1 Insect Anatomy
   a. Insect Anatomy interactive tutorial
   b. External and Internal Morphology
   c. Insect Anatomy interactive quiz

2. Unit 2 Insect Physiology: Respiration, Circulation, Digestion, Excretion, Molting and Metamorphosis
   a. External and Internal Morphology
   b. Insect Physiology, Life cycles, & Metamorphosis interactive quiz

3. Unit 3 Insect Identification
   a. Insect Identification interactive tutorial
   b. Oregon 4-H Key to the Orders of Insects
   c. Insect Orders, Meanings and Common Names
   d. Insect Identification interactive quiz
4. Unit 4 Collecting, Preserving & Displaying Insects
   a. Collecting Insects tutorial
   b. Insect Display Examples by Fair Class
   c. “4-H How to…” Sheets and videos about equipment needed for collecting insects
   d. “4-H How to…” Sheets and videos about how to pin, point, spread the wings of insects and preserve immature and soft-bodied insects.
   e. “4-H How to…” Sheets and videos about how to label and display
   f. Oregon 4-H Key to the Orders of Insects
   g. Insect Orders, Meanings and Common Names
   h. Cut-out Insect Order Name Labels
   i. Cut-out Master for Insect Specimen Labels (Word document to fill in.)
   j. Cut-out Master for Insect Points

In Unit 4 the printed and on-line Oregon 4-H Entomology Project materials will help you learn about collecting and displaying insects. Insect displays at county and state fair show what youth are learning in this project area.

Additional options for displaying your knowledge include educational posters and the 4-H Science Investigation Display found under the Science and Technology projects at http://oregon.4h.oregonstate.edu/oregon.4h/projects/sci-tech-eng. The 4-H Science Investigation Display is a way for youth in any 4-H project area to plan and carry out a science investigation and report on it in a display that may be shown and judged at fair.

The Value of Insects
It’s impossible to measure in dollars the enjoyment or esthetic value of watching beautiful butterflies flitting about over flowers or the chirp of a cricket on a warm summer evening.

The value of the honeybee and other pollinating insects can be measure and it totals many millions of dollars annually. Without insect pollinators, many of our crops could not be grown. Countless indirect benefits of insects are incompletely understood, but their importance as food for birds, fish, and other wildlife cannot be overestimated.

Insects perform services as scavengers; they help keep harmful animals and plants in check and have been useful in medicine. Insects provide people with honey, beeswax, silk, and other products of commercial value.

Insects have been used as food by humans for centuries past and are even today in some cultures. They are valuable subjects for scientific study in genetics and have been use in experimental ventures into outer space.

Learning About Insects
A purposeful study of insects could involve using the on-line Oregon 4-H Entomology tutorials and quizzes, reading about insects, observing live insects, or working with collections of preserved insects. The best approach is to do all these things.